

# DRAFT

## REMARKS

In the Office Action of April 23, 2003, each of the independent claims (Claims 1, 18, 35, 55, 62, and 67) was rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,509,283 to Thomas. Independent Claims 1, 18, 55, 62, and 67 recite processes with the act of regulating plasma activity to limit a rate of formation of film, and independent Claim 35 recites a process that is configured such that oxide film grows to a predetermined thickness substantially independent of an exposure time beyond an initial exposure time. Because Thomas does not teach these acts, Applicants respectfully request reconsideration and withdrawal of the rejections.

As described in Applicants' specification, one problem of plasma oxidation relates to the difficulty of controlling the oxidation process to the requirements needed for oxide formation. The fabrication of oxide layers generally require precise thickness control and precise thickness uniformity. In their specification, Applicants presented several embodiments that can be used to form an oxide layer having a precisely controlled thickness. In one embodiment, oxidizing plasma activity is regulated to limit a rate of formation of oxide film. As defined in Applicants' specification, the term "plasma activity" encompasses aspects of the plasma oxidation process, such as, but not limited to, reaction kinetics, growth initiation, and surface energy. By regulating plasma activity to limit a rate of formation of oxide film, the oxide film can be made to grow to a predetermined thickness substantially independent of an exposure time beyond the initial exposure time. That is, the additional exposure to the oxidizing plasma beyond some initial exposure time will not result in a significant further increase in oxide thickness. This self-limiting oxide growth mechanism allows the oxide layer thickness to be made consistent from one substrate to the next, thereby improving the reproducibility of the fabrication process and the function of a semiconductor device made by the process.

**DRAFT**

Without citing a particular passage, the Office Action generally identified column 3 of Thomas as teaching each of the elements in the independent claims. However, while the embodiment disclosed in Thomas at column 3, lines 25-46 and Figure 3 teaches the use of plasma, there is no discussion whatsoever of regulating oxidizing plasma activity to limit a rate of formation of oxide film. In fact, the only discussion in Thomas related to plasma is that a remote plasma reactor generates a flow of atomic oxygen that is provided to a reactor vessel 54. There is no teaching in Thomas of regulating plasma activity to limit a rate of formation of film or growing oxide film to a predetermined thickness substantially independent of an exposure time beyond an initial exposure time, as recited in the claims. Accordingly, Applicants respectfully request reconsideration and withdrawal of the claim rejections.

Also, in this Amendment, Applicants have amended the specification to insert the serial number and filing date of a patent application formerly identified by attorney docket number.

If there are any questions concerning this Amendment, the Examiner is invited to contact the undersigned attorney at (312) 321-4719.

Dated:

Respectfully submitted,

---

Joseph F. Hetz  
Reg. No. 41,070  
Attorney for Applicants

BRINKS HOFER GILSON & LIONE  
P.O. Box 10395  
Chicago, Illinois 60610  
(312) 321-4719